



Kratom Consumer Advisory Council

Fact Check on Synthetic 7 Solving Opioid Crisis 2025

The KCAC has fact-checked the claim by the Holistic Alternative Recovery Trust (HART) that synthetic 7 products single-handedly reduced opioid mortality death rates.

Claim: The Holistic Alternative Recovery Trust (HART) is claiming in testimony to state legislatures across the country that the sale of synthetic 7 products has single-handedly reduced the opioid mortality death rate in the United States.

Truth: There are no published clinical trials or observational studies to demonstrate that the opioid death rate in the United States has dropped due to the sale of synthetic 7 products.

Public health researchers have compelling research demonstrating that the partnership between the federal government, state health departments, and community partners to provide naloxone to at-risk communities, and to train the general public on how to identify opioid-induced respiratory depression and administer naloxone and rescue breathing, is the main driver of enhanced survival. Here is but a small number of references where they directly assess the impact of community-engaged naloxone programs.

Study in North Carolina: By December 2016, an estimated 352 North Carolina deaths were avoided by naloxone distribution (95% CI: 189, 580). For every dollar spent, there was \$2,742 of benefit due to opioid overdose deaths avoided (95% CI: \$1,237, \$4,882). There was a clear stepwise relationship with those counties not distributing naloxone having a higher death rate than those distributing 1-100 kits/100,000 people, and much more than those distributing more than 100 kits/100,000 people. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8107918/>

Study in Southwestern Pennsylvania: Combining the addition of secondary distribution of naloxone with an increase in sites that distribute naloxone from one to ten resulted in a 61.1% drop in deaths relative to the baseline. Adding naloxone distribution through a syringe exchange site resulted in a drop of approximately 65% of deaths relative to baseline. <https://doi.org/10.1016/j.drugpo.2018.02.008>

Meta-analysis of 44 studies: Studies of community education and naloxone distribution programs serving people who use drugs reported 98.3% (95% CI: 97.5–98.8) survival; those serving family of people who use drugs or other community members reported 95.0% (95% CI: 91.4–97.1) survival; and those for police reported 92.4% (95% CI: 88.9–94.8) survival ($p < 0.01$). <https://pmc.ncbi.nlm.nih.gov/articles/PMC11934755/>

Meta-analysis of 9 studies (2020): All studies concluded that community distribution of naloxone was cost effective, with an incremental cost-utility ratio range of \$US111–58,738 (year 2020 values) per quality-adjusted life-year gained. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8581604/>



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What is HART basing their claims on?

They have never provided evidence, but the HART group's entire premise seems based on a temporal relationship where sales of synthetic 7 products increased in the same year that the opioid death rate decreased.

Look at the picture below. The roof is bent, and the cat is where it is bent. Does this mean that the cat bent this roof? Of course not.



What is the risk of using synthetic 7 products?

We term synthetic 7, as well as tianeptine and mitragynine pseudoindoxyl, products as “Gas Station Heroin” because they are sold in gas stations, convenience stores, and smoke shops, and the cellular and animal studies suggest they are more potent than morphine, stimulate the same opioid receptor as morphine, and are just as addictive as morphine. Anecdotal reports of synthetic 7 users suggest that they caused severe addiction, supporting the preclinical evidence. Many of the products are attractive to children with bright colored packages, fruit or candy flavorings, and names like “Perks”, “Opia”, and “Rave”. <https://pharmacy.media.uconn.edu/wp-content/uploads/sites/2740/2025/03/Kratom-CE-FINAL.pdf>



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Whole-leaf kratom products and mitragynine extracts of natural kratom have preclinical and observational study data to suggest a very low risk of respiratory depression, but this does not seem to be the case for synthetic 7. In a recent rodent study, the use of synthetic 7 reduced respiratory rate (the number of times a rodent breathes per minute) and the minute ventilation (the multiplication of the respiratory rate and the tidal volume (the amount of air exchanged each time a rodent breathes) in a dose-related manner (high dose, greater impairment of breathing). The magnitude of these effects were similar to rodents given morphine, but mitragynine did not negatively impact either of these parameters in this rodent study. Furthermore, when naloxone was given to morphine-dosed rodents the minute ventilation was strongly reversed, while in synthetic 7 dosed rodents, the reversal was modest. <https://doi.org/10.1016/j.vascn.2025.107624>. The dose-related respiratory depressant effects of synthetic 7 were found previously in another rodent study, while mitragynine had modest negative effects on respiration with a ceiling effect (meaning that using higher doses did not increase the risk of more severe respiratory depression, like treatment with synthetic 7 does).

<https://pubmed.ncbi.nlm.nih.gov/35297034/> As such, the animal data suggests that synthetic 7 poses a risk of precipitating the very respiratory depression that regular opioids do, and the higher the dose used, the greater the risk. As such, it is disingenuous to suggest, without clinical trial data assessing respiration, that synthetic 7 provides greater safety.